

Figure 1

SEQ ID NO:1

GATGANCATTTATTAACGCACAACAACAATACAATTACATANGGCAACAATCAAATATA
CATTCAATTTGAAGTGATGATCACAGAAATTTACATACAGATACAACAATTTACATGATG
GGGGACAAAATGACAATTTTGGGACGGTGGGATGGGATCCTATCATGTCCATGTTGAGG
TGACGAAGCATCCTTCCATCAGACGTTGTA CTGATCGGCAAGTTCTTGCGGCGCACCA
TCCCGTCTCCCTGGAACCACTCGAGCTTGAACGTGGTGTCTGGCTGGGTCCGGTGTGTTG
GTCCACTCCGCGGCGGCGGCGGCGGCGGCGGCGGCTTCCGGCACGTTGGTCCACGCCACGGT
CACACGGTTCGTCCTTGGTGTCTCTCGCTGCCGGGGTTCGAAGGCGTCNCAGANACGGCCA
CGTTGACAGATTCCTTTGGGCCGANCACTCCGTCCGGCGGGTTCATGTTGATNCGCTTC
GGTTTGGTGGTCTTGAAGGCGTAGCCGATGCGCTTCGTCCCAAGGTTGATCACNCNCAA
GTAGTANATGGCTTTGTTGTCTGAAGGNACGTTGNAANAGATCTTCTGCGTGGGCATTGT
TGCGACGTCCTCTGGTGAAGTTGCGCCATTGCTGTTGTTGTCTGCTGTTGTCTGCTATGC
CTTTGTGGGTGCTTGATGTGTGATCGTTGAGAGCGTTGCTTGAAGTGTGCTGCTATGC
TGCTGAGTGAGGGGAATGTGCAAAATCCACCTCCTTATATACAAAATTCGGGTGCAAAA
ATTCATGCAGCAAAAAAAGTGTATAAAAGGCGACGGTTTTCTTCACTTTTCACCACT
GCCAGCCAGCCTTCAACTCAACGCAACATCAACACCACTGCGCGCCAAGCTCGTCTACA
CATTCGTCGCGACAACCTCATCACTGATCACAGAAATTTACATACAGATACAACAATTT
ACATGATGGGGGACAAAATGACAATTTTGGGACGGTGGGATGGGATCCTATCATGTCCA
TGTTGAGGTGACGAAGCATCCTTCCATCAGACGTTGTA CTGATCGGCAAGTTCTTGCG
GCGCACCATCCCGTCTCCCTGGAACCACTCGAGCTTGAACGCGGTGACCGGCAGGGCCC
GGCGTGTGGTCCACTCCACGGCGGCGGTGGCGCCGGGAGGCTNCNCGTGTGGTCCAC
TCCACGGTCACACGGTCGCCCTTGGGTGTCTCGCTTNACCTNCNTNTNCGTTTNNNNT
GNTATTTTGCCGNACTGN

Figure 2A

SEQ ID NO:4

C' TCGAGCTTGAACGTGGTGTCTGGCTGGGTCCGGTGTGTTGGTCCACTCCGCGGCGGCG
GCGGCGCCGGGCGGTTCCGGCACGTTGGTCCACGCCACGGTCACACGGTCGTCCTTGGT
GTCCTCGCTGCCGGGGTCTGAAGGCGTCNCAGAAACGGCCACGTTGACAGATTCCTTTG
GGCCGANCACTCCGTCCGGCGGGTTCATGTTGATNCGCTTCGGTTTGGTGGTCTTGAAG
GCCTGCA' G

Figure 2B

SEQ ID NO:45

G'GATCCTATCATGTCCATGTTGAGGTGACGAAGCATCCTTCCATCAGACGTT
GTACTCGATCGGCAAGTTCTTGCGGCGCACCATCCCGTCTCCCTGGAACCACT
CGAGCTTGAACGTGGTGTCTGGCTGGGTCCGGTGTGTTGGTCCACTCCGCGGC
GGCGGCGGCGCCGGGCGGTTCCGGCACGTTGGTCCACGCCACGGTCACACGG
TCGTCCTTGGTGTCTCTCGCTGCCGGGGTCTGAAGGCGTCNCAGAAACGGCCA
CGTTGACAGATTCCTTTGGGCCGANCACTCCGTCCGGCGGGTTCATGTTGATN
CGCTTCGGTTTGGTGGTCTTGAAGGCCTGCAGCCATGGNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNG'**AATTC**

Figure 3

SEQ ID NO:5

CTGCA' GGCCTTCAAGACCACCAAACCGAAGCGNATCAACATGAACCCGCC
GGACGGAGTGNTCGGCCCAAAGGAATCTGTCAACGTGGCCGTNTTCTGNG
ACGCCTTCGACCCCGGCAGCGAGGACACCAAGGACGACCGTGTGACCGTG
GCGTGGACCAACGTGCCGGAACCGCCCGGCGCCGCCGCCGCCGCGGAGTG
GACCAACACACCGGACCCAGCCGACACCACGTTCAAGC' TCGAG

Figure 4

SEQ ID NO:6

AAGCTTGCATGCCTGCA' GGCCTTCAAGACCACCAAACCGAAGCGNATCAACATGAACC
CGCCGGACGGAGTGNTCGGCCCAAAGGAATCTGTCAACGTGGCCGTNTTCTGNGACGCC
TTCGACCCCGGCAGCGAGGACACCAAGGACGACCGTGTGACCGTGGCGTGGACCAACGT
GCCGGAACCGCCCGGCGCCGCCGCCGCCGCGGAGTGGACCAACACACCGGACCCAGCCG
ACACCACGTTCAAGC' TCGACTCTAGAG' **GATCCT**ATCATGTCCATGTTGAGGTGACGA
AGCATCCTTCCATCAGACGTTGTACTCGATCGGCAAGTTCTTGCGGCGCACCATCCCGT
CTCCCTGGAACCACTCGAGCTTGAACGTGGTGTCTGGCTGGGTCCGGTGTGTTGGTCCAC
TCCGCGGCGGCGGCGGCGCCGGGCGGTTCCGGCACGTTGGTCCACGCCACGGTCACACG
GTCGTCCTTGGTGTCTCTCGCTGCCGGGGTCTGAAGGCGTCNCAGAAACGGCCACGTTGA
CAGATTCCTTTGGGCCGANCACTCCGTCCGGCGGGTTCATGTTGATNCGCTTCGGTTTG
GTGGTCTTGAAGGCCTGCAGCCATGG

Figure 5

SEQ ID NO:9

5'-

CCAACCCTGCACAAAATGCTATGATGGGACATCGTGTTAAGGCATGACTGTT
TTATTTGCAATTGTTATTTTGGATTATTACGATAGATCTTACCTTGGTCGACTT
TTCGTATGAATTTGTCCGTCACAACCCCTTACAATGCTGATTTTGACGGGGAT
GAAATGAATTAGCACCTTCCGCAATCACTGGAGACACGGGCAGAAATAAACG
AAATTGCGATGGTTTTTTATTAATTTAAAGCACCAAATATAACCCTTACCTTTT
CTCTAAAAAGGCATCTCGACAGTTAATTACGCCACAGGCCAACAAGCCAGTG
ATGGGAATTGTGCAGGACACATTGACCGCAGTTCGAATGATGACTAAACGCG
ACGTTTTTTATTGATTACGCTCGTCTCATGGATTTGTTGATGCATTTGCCAAATT
GGGATGGAAAAATCCGCAGCCAGCGATAATCAAACCCAAGCCACTTTGGAC
CGGAAAACAAGTGTTTACAAAGATAATTCCAGGTTTTGTCAAATGAACTTTT
CCTCCATTCTTTGTTTTGTTCTAACTAAGGCAGTGTCAATGTTATCCGAACAC
ATTCGACCCATCCGGACGACGAAGACAGCGGACCATACAAATGGATTTCCCC
TGGCGACACCAAAGTGCTCATTGAGAACAGCGAACTTCTCTCTGGGATAATT
TGTTCCAAAACCTGTTGGCAGAGGTTCCNGAAACCTTCTTCACATTGTTCGCATT
AGAATTGGGTCATCAAATTGCTGCCGAGTTATATGCCAACATACAAACTGTT
ATAAACGCATGGCTTCTCGCCGAGGGACACACCATTGGAATTGGTTTCCAATT
TTACTTTTATTTACAATAATTTTGTTTAACTCTCAGGTGACACAATTGCTGATA
CTTCCACCTACAGAGATATCCAGGAGACCATAAGAAAGGCCAAACAGGATGT
CATTGATGTTATCGAGAAAGCTCACAAACGATGATNCTCGAGCCGACTNCCCG
GGAACACACTTCGACAGACTTCGAAAATCAAGTGAACCGAATTNCTG-3'

Figure 6

SEQ ID NO:10

5'-

GGCAGTGTCAATGTTATCCGAACACATTCGACCCATCCGGACGACGAAGACA
GCGGACCATACAAATGGATTTCCTGGCGACACCAAAGTGCTCATTGAGAA
CAGCGAACTTCTCTCTGGGATAATTTGTTCCAAAAGTGTGGCAGAGGTTCCN
GAAACCTTCTTCACATTGTCGCATTAGAATTGGGTCATCAAATTGCTGCCGAG
TTATATGCCAACATACAAAGTGTATAAACGCATGGCTTCTCGCCGAGGGAC
ACACCATTGGAATTGGT-3'

Figure 7

SEQ ID NO:13

Antisense fragment-285bp

279bp exon region from above showing the RP2_KpnF1B and RP2_BamRB primers:

5'-

GGCAGTGTCAATGTTATCCGAACACATTCGACCCATCCGGACGACGAAGACA
GCGGACCATACAAATGGATTTCCCCTGGCGACACCAAAGTGCTCATTGAGAA
CAGCGAACTTCTCTCTGGGATAATTTGTTCCAAAAGTGTGGCAGAGGTTCCN
GAAACCTTCTTCACATTGTCGCATTAGAATTGGGTCATCAAATTGCTGCCGAG
TTATATGCCAACATACAAACTGTTATAAACGCATGGCTTCTCGCCGAGGGAC
ACACCATTGGAATTGGT-3'

Figure 8
SEQ ID NO:14

Reverse complement of the 279bp exon fragment showing the RP2_KpnF1B and RP2_BamRB primers:

5'-
ACCAATTCCAATGGTGTGTCCCTCGGCGAGAAGCCATGCGTTTATAACAGTTT
GTATGTTGGCATATAACTCGGCAGCAATTTGATGACCCAATTCTAATGCGACA
ATGTGAAGAAGGTTTCNGGAACCTCTGCCAACAGTTTTGGAACAAATTATCC
CAGAGAGAAGTTCGCTGTTCTCAATGAGCACTTTGGTGTGCGCCAGGGGAAAT
CCATTTGTATGGTCCGCTGTCTTCGTCTCGGATGGGTCGAATGTGTTTCGGA
TAACATTGACACTGCC-3'

Figure 9

Cloning strategy for sense RNA polymerase II sequence

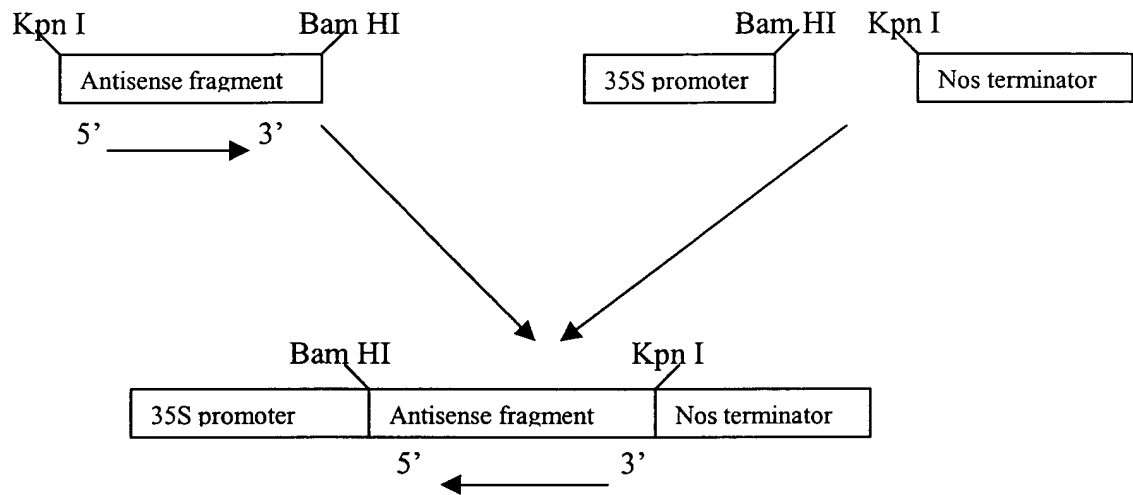


Figure 10

SEQ ID NO:17

**GGCAGTGTCAATGTTATCCGAACACATTGACCCATCCGGACGACGAAG
ACAGCGGACCATACAAATGGATTTCCCCTGGCGACACCAAAGTGCTCATTGA
GAACAGCGAACTTCTCTCTGGGATAATTTGTTCCAAAAGTGTGGCAGAGGTT
CCNGAAACCTTCTTCACATTGTCGCATTAGAATTGGGTCATCAAATTGCTGCC
GAGTTATATGCCAACATACAAACTGTTATAAACGCATGGCTTCTCGCCGAGG
GACACACCATTGGAATTGGT**

Figure 11

Cloning strategy for sense RNA polymerase II sequence

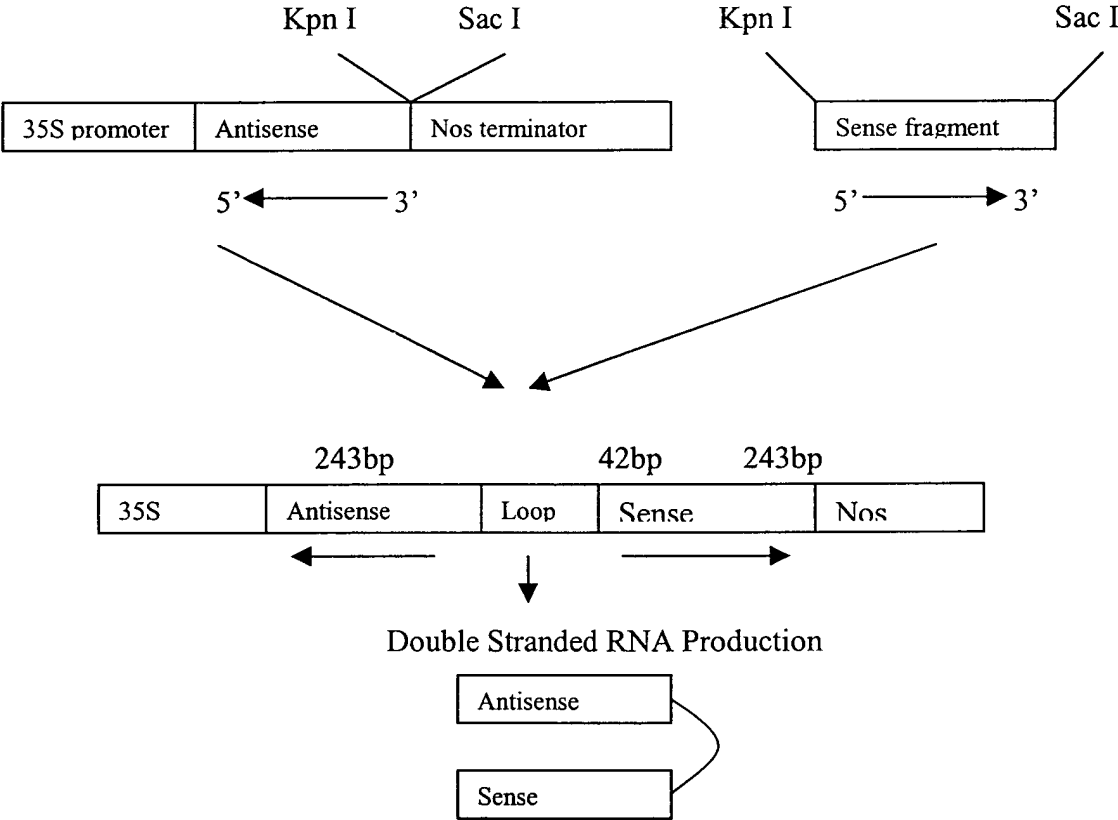


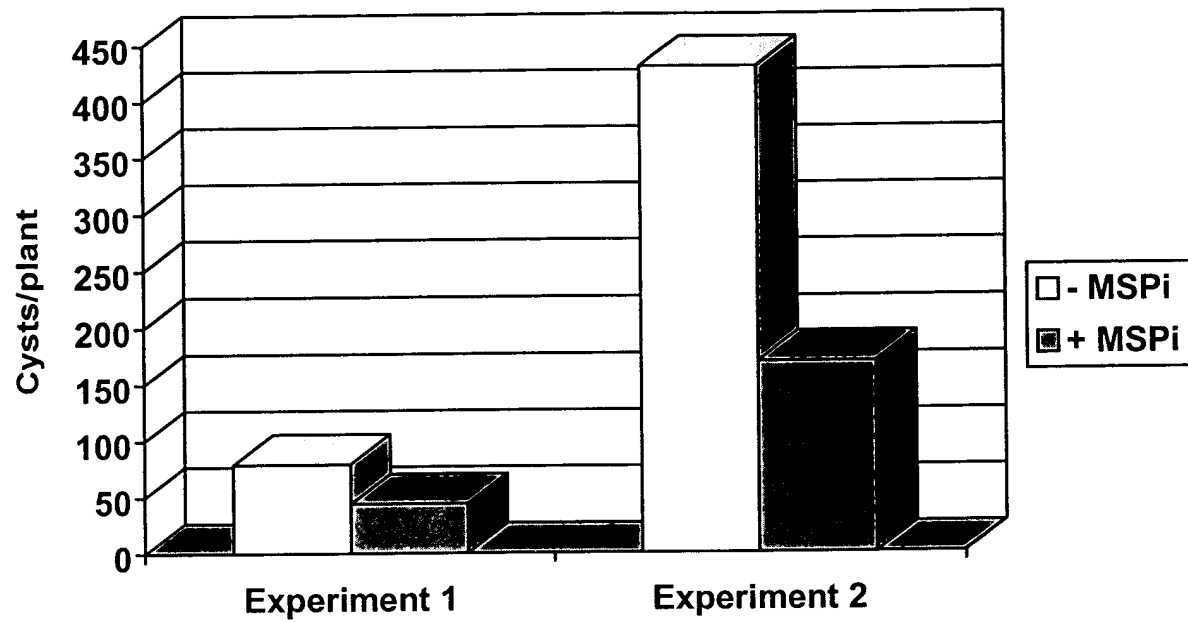
Figure 12

SEQ ID NO:18

Sp6 -

CAAGAAACGATGGTCCCAGGTGATGTACATGTACTTTTTGCTCGGGCATCGAATTATGG
ACTCACATTTGAGCGTAGAAGACAAACAATTGCAGGTCTTTTGAGCCTAAATTTTGCCC
TCGTGGAATCTGTGCAATAATTCAATGTTTCGCACCGATGCTTAGGCTGACAACACATAT
ATTCTCGCCATTGATGGCGATTCCAAATTCGAACCAGCGGCAGTGATTTCGTCTTTTACA
TCTGATGAACTTGAAAAGCGACGTTGGCTGTGCGTGCGGAAGAATCCATCCGATTGGAG
AAGGTGTGCTATCCTTCCCATTAAATGGTGAATTTCTTACCATTCCCCAGGGGTCATGGT
TTGGTACCAAAAGTTCGAGTACGCAATCGCCCATTGGTTCCAAAAGGCTGCTGAGCATG
TGTTCGGCTGTGTTTTGTGTGCCCCCGGTAGCTTCTCTCTGTTTCGTGCTTCTGCTCTC
ATGGATGACAATGTGATGCACAAATACACCAAAANTGCCTCCGAACCNACGACNATTTT
GTTCAGTATGATCAAGGCGAAGACCCGATGGA - T7

Figure 13. Soybean cyst production on transgenic lines vs. control plants as functional of cysts per plant.



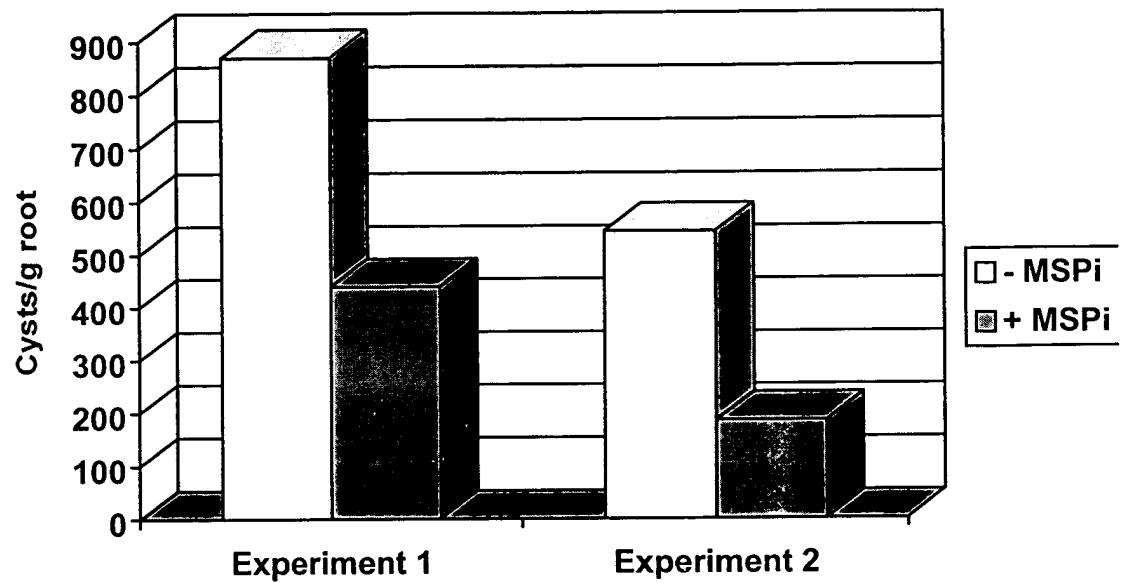


Figure 14. Soybean cyst production on transgenic lines vs. control plants as functional of cysts per gram of root tissue. "*" indicates data is significant.

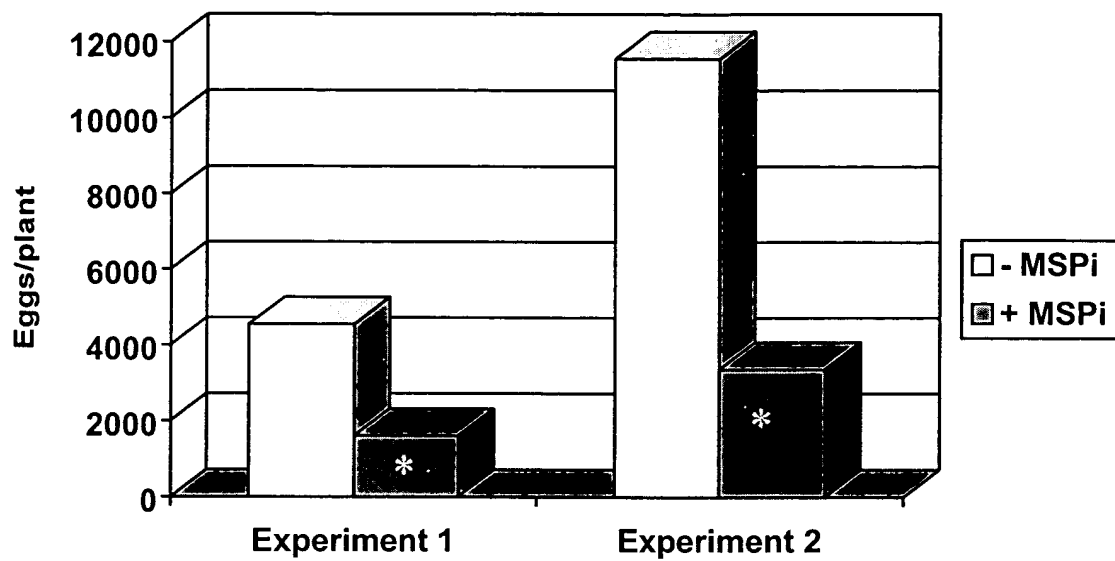


Figure 15. Soybean cyst nematode egg production on transgenic lines vs. control plants as an average number of eggs per plant. “*” indicates data is significant.

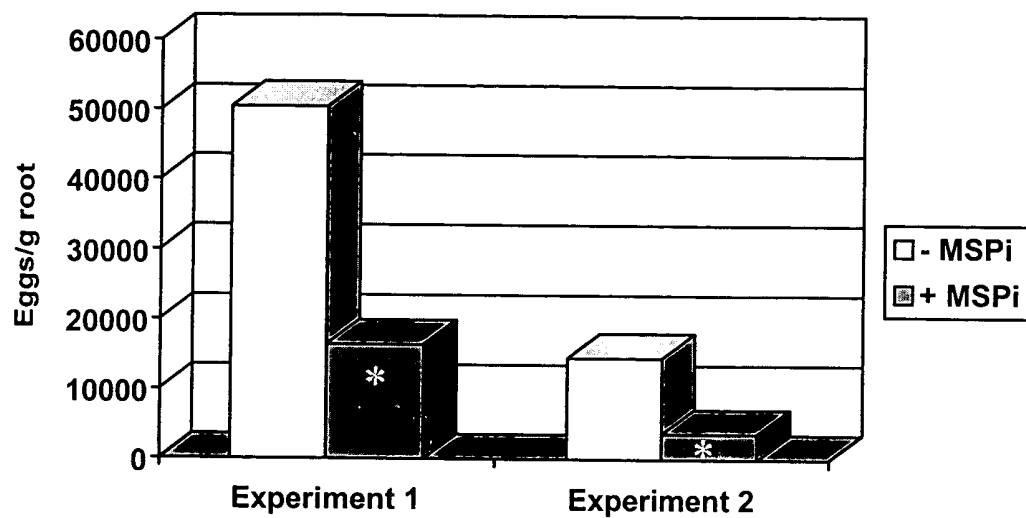


Figure 16. Soybean cyst nematode egg production on transgenic lines vs. control plants as an average number of eggs per gram of root. “*” indicates data is significant.

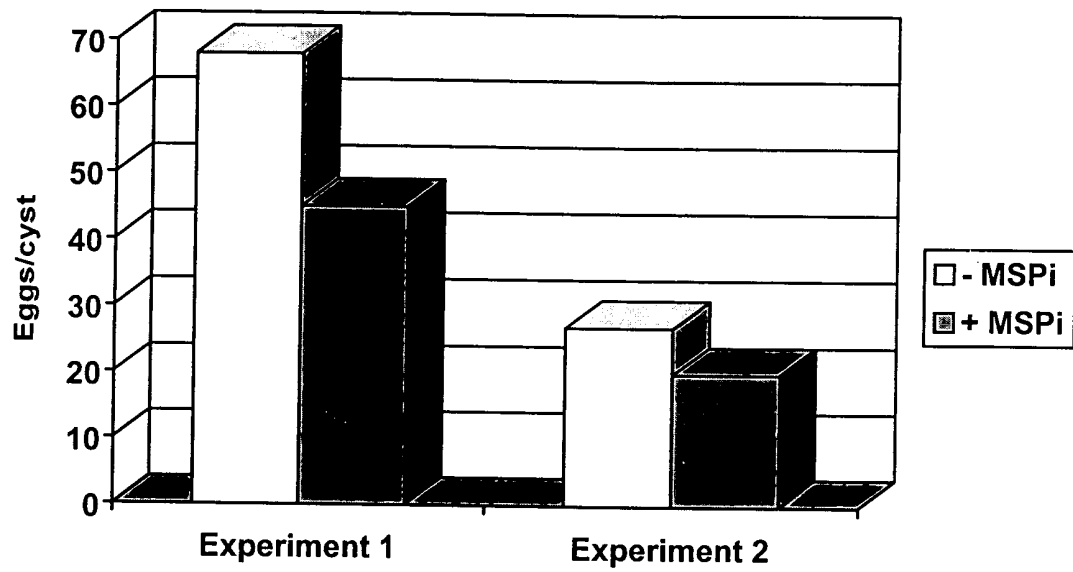


Figure 17. Soybean cyst nematode egg production on transgenic lines vs. control plants as an average number of eggs per cyst.